

## Summary: Results from Analyses of PFAS in the Environment Surrounding Industrial Sites in NJ

This summary provides a “heads-up” for a soon to be published manuscript that presents results of analyses of PFAS in soils surrounding industrial sites in NJ. The manuscript will be published in the prestigious journal *Science*. The underlying work was part of a collaborative EPA/NJDEP effort.

### Background

- New Jersey has a history of private wells and municipal drinking water contaminated with PFAS.
- In 2018, NJDEP established an MCL for PFNA (13 ng/L) and proposed MCLs for PFOA (14 ng/L) and PFOS (13 ng/L).
- An industrial site in NJ used “Surflon,” a mixture of PFNA (79%), PFUnDA (15%), and PFTrDA (5%) as a polymer processing aid until 2010, when it switched to a new unknown aid to conform with the EPA PFOA Stewardship Program.
- The identity of the new polymer processing aid was not known.
- NJDEP and EPA (Region 2 and ORD) scientists began discussions regarding possible collaboration in December 2015, resulting in the development of joint NJDEP and EPA study plan in 2017 designed to address the following research questions:
  - Is there environmental contamination from “replacement” PFAS used as substitutes since 2010?
  - Have airborne PFAS emissions from the plant impacted surrounding areas?
  - What is the nature/extent of contamination resulting from PFAS airborne emissions?
  - Can we develop ways to identify legacy/emerging PFAS in the environment and associate those PFAS with known sources?

### Study Approach

- NJDEP collected samples (water, soil, sediment, vegetation) in the vicinity of two potential PFAS manufacturers/users in 2017/18.
- Samples mainly collected on transects originating near the industrial site, running parallel to the prevailing wind directions.
- NJDEP shipped samples to ORD laboratories in RTP NC and Athens GA for analyses of PFAS.
- ORD is providing reports to NJDEP which present data from PFAS analyses without interpretation.
- ORD is also preparing manuscripts that interpret results of PFAS analyses to address the research questions above.

### Summary of NJDEP Data Reports

- 3 reports delivered: results from soil, vegetation, and ground/surface water samples.
- 4 reports ready to be delivered: results from sediment, well water, soil and vegetation samples.
- 1 report in internal review: additional results from ground/surface water samples.

### Science Manuscript

- Presents results from analyses of PFAS in soil that were reported in the first 2 NJDEP data reports.
- Key Findings
  - Identified 10 novel PFAS compounds (assumed to be replacement compounds) in soil that are related to a chemical company, Solvay, industrial site in New Jersey.
  - The distribution patterns of these 10 novel PFAS in soil also suggests an association with the Solvay industrial site.
  - Analyses of the distribution legacy PFAS demonstrates unique associations with Solvay and Chemours (another PFAS manufacturer) industrial sites in New Jersey.
- Science notified EPA lead author of “acceptance after minor revisions” on April 14.